

Table 2

Amino acid sequences of chelons which bind cadmium as well as mercury ions with high affinity. The residues which differ from the mercury specific chelon (see Table 1B) are shown with bold and underlining.

MTHCEEVSSLAEHKLKDVREK**MADL**ARMETVLSELVCACHARKGNVSCPLIASLQSS  
GTHCEEVSSLAEHKLKDVREK**MADL**ARMETVLSELVCACHARKGNVSCPSSAWSHPQFEK  
(SEQ ID NO:5)

MTHCEEASSLVEHKLKDVREK**MADL**ARMETVLSELVCACHARKGNVSCPLIASLQSS  
GTHCEEASSLVEHKLKDVREK**MADL**ARMETVLSELVCACHARKGNVSCPSSAWSHPQFEK  
(SEQ ID NO:6)

MTHCEEASSLAEHKLKDVRE**T**MADLARMETVLSELVCACHARKGNVSCPLIASLQSS  
GTHCEEASSLAEHKLKDVRE**T**MADLARMETVLSELVCACHARKGNVSCPSSAWSHPQFEK  
(SEQ ID NO:7)

MTHCEEASSLAEHKLKDVRE**Q**MADLARMETVLSELVCACHARKGNVSCPLIASLQSS  
GTHCEEASSLAEHKLKDVRE**Q**MADLARMETVLSELVCACHARKGNVSCPSSAWSHPQFEK  
(SEQ ID NO:8)

MTHCEEASSLAEHKLKDVREK**MADLAR**VETVLSELVCACHARKGNVSCPLIASLQSS  
GTHCEEASSLAEHKLKDVREK**MADLAR**VETVLSELVCACHARKGNVSCPSSAWSHPQFEK  
(SEQ ID NO:9)

MTHCEEASSLAEHKLKDVREK**MADLAR**IETVLSELVCACHARKGNVSCPLIASLQSS  
GTHCEEASSLAEHKLKDVREK**MADLAR**IETVLSELVCACHARKGNVSCPSSAWSHPQFEK  
(SEQ ID NO:10)

MTHCEEASSLAEHKLKDVREK**MADL**ARMETVLSELVCACHARKGNVPCPLIASLQSS  
GTHCEEASSLAEHKLKDVREK**MADL**ARMETVLSELVCACHARKGNVPCPSSAWSHPQFEK  
(SEQ ID NO:11)

MTHCEEASSLAEHKLKDVREK**MADL**ARMETVLSELVCACHARKGNVSCPLIALLLQSS  
GTHCEEASSLAEHKLKDVREK**MADL**ARMETVLSELVCACHARKGNVSCPSSAWSHPQFEK  
(SEQ ID NO:12)

Table 3

Hg-binding by Resin-tethered MerR and Chelon (SEQ ID NO:4)

Protein	moles Hg bound/mole protein
chelon	0.490
MerR	0.194

Table 4

Metal Binding by Chelon (SEQ ID NO:4)

Metal	moles bound/mole protein
arsenic	below limit of detection
cadmium	0.66
cobalt	0.79
copper	0.95
iron	below limit of detection
lead	0.93
nickel	0.75
zinc	0.38

Table 5A.

Primers for construction of pASK-MBD:

- 5 Product 1:  
Forward: 5' TGC GGC GGT CTCAAATGACACACTGCGAGGAGG 3' (SEQ ID NO:13)  
Reverse: 5' GCCTGAGGATCCCTGTAGTGACGCGATCAACGG 3' (SEQ ID NO:14)
- Product 2:  
10 Forward: 5' CTACAGGGATCCTCAGGCACCCACTGCGAG 3' (SEQ ID NO:15)  
Reverse: 5' CTGTAGGGTCTCGGCGCTCGGGCAGGAAACATT 3' (SEQ ID NO:16)

Table 5B.

- 15 Sequence of pASK-MBD gene (SEQ ID NO:17)

ATGACACACTGCGAGGAGGCCAGCAGCCTGGCCGAACACAAGCTCAAGGACGT  
GCGCGAGAAGATGGCCGACTTGGCGCGCATGGAAACCGTGCTGTCTGAACTCGT  
GTGCGCCTGCCATGCACGAAAGGGGAATGTTTCCTGCCCCGTTGATCGCGTCACT  
20 ACAGGGATCCTCAGGCACCCACTGCGAGGAGGCCAGCAGCCTGGCCGAACACA  
AGCTCAAGGACGTGCGCGAGAAGATGGCCGACTTGGCGCGCATGGAAACCGTG  
CTGTCTGAACTCGTGTGCGCCTGCCATGCACGAAAGGGGAATGTTTCCTGCCCCG  
25 AGCGCTTGGAGCCACCCGCAGTTCGAAAAATAA